

## Description of invention

[0001] The present invention concerns a skincare or treatment composition which can be used as make-up for the skin or the scalp and/or for lips for human beings, containing a fatty liquid phase, gelified by a particular polymer, and presented in the form of a make-up stick-like lipstick which, when applied gives a gloss coating which does not run.

[0002] In cosmetic or skin products, it is usual to find a structured fatty liquid phase, i.e. gelified and/or solidified; this is the case in particular in solid compositions such as deodorants, balms and lipsticks, concealers for shadows under the eyes and moulded foundations. This structuration is obtained with the help of waxes or charges. Unfortunately these waxes and charges have a tendency to make the composition go matt which is not always desirable, especially for lipstick since women are always trying to find a lipstick in the shape of a stick giving more and more gloss to the lips.

[0003] By fatty liquid phase, in the meaning of the present application, is meant a fatty liquid phase at ambient temperature (25°C) and an atmospheric pressure (760 mm of Hg), composed of several fats liquefying at ambient temperature, also known as oils, and compatible among themselves.

[0004] The structuration of the fatty liquid phase also limits its exudation from solid compositions and furthermore limits, after its application to the skin or the lips, the running of this phase into any wrinkles and fine lines, which is particularly in demand for a lipstick. Too much running in the fatty liquid phase gives an inaesthetic effect around the lips, particularly bringing out the wrinkles and fine lines. This running is often specified by women as the main drawback of classical lipsticks.

[0005] Gloss is essentially dependent on the nature of the fatty liquid phase. So it is possible to decrease the amount of waxes and charges in the composition to obtain greater gloss in a lipstick, but then the running of the fatty liquid phase increases. In other words, the amount of waxes and charges necessary for the realisation of a sufficiently firm stick decreases the gloss of the coating.

[0006] The applicant has found that the gloss effect of a stick containing waxes is linked to the anisotrope crystalline structure of these components. He has therefore considered the manufacture of a stick without wax.

[0007] The invention bears precisely on the composition of a face and/or lip care and/or makeup and/or treatment allowing to remedy these disadvantages.

[0008] Surprisingly the applicant has found that the use of certain polymers helped to structure, even in the absence of wax, the fatty liquid phases in the form of a stick which applied to the lips gave a glossy coating without running.

[0009] The invention is applicable not only to make-up products such as lipstick, lip pencils, but also to products for skin care and treatment, including the scalp and lips, such as sun-protection products in the shape of a stick for the skin of the face or the lips, to make-up products for the skin of the face as well as body of human beings, such as foundation shaped into a stick or moulded into pots, concealers for shadows under the eyes and products of ephemeral tattooing, products of corporal hygiene such as stick deodorants and products for eye make-up such as eyeliners in the form of pencils and loaf mascaras.

[0010] More precisely, the invention concerns a structured composition containing at least one colouring component and a continuous fatty liquid phase structured by at least one polymer of an average molecular mass and a weight ranging from 1000 to 30 000 and

preferably 1000 to 10 000, consisting of a) a polymeric skeleton having hydrocarbonated repeat patterns provided with at least one heteroatom and b) at least one fatty pendant chain and/or at least one terminal fatty chain, possibly functionalised, having from 12 to 120 carbon atoms binding with these patterns, these fatty chains representing 40 to 98% of the total number of patterns with a heteroatom and fatty chains, the said composition presenting itself as a waxless solid, the colouring component, fatty liquid phase and the polymer forming an acceptable physiological medium.

[0011] By a composition with "at least one fatty chain" is meant one or more fatty chains.

[0012] A wax, in the meaning of the present invention, is a lipophilic fatty component, solid at ambient temperature (25°C) with a reversible solid to liquid change, having a melting temperature over 40°C which can go up to 200°C and presenting in the solid state an anisotrope crystalline organisation. The crystal facets are such that the crystals diffract and/or diffuse light making the composition look cloudy, more or less opaque. When the wax is brought to its melting temperature, it is possible to make it mixable with the oils and to effect a microscopically homogeneous mixture, but when the temperature is returned to ambient, a re-crystallisation of the wax in the oils of the mixture occurs. It is this re-crystallisation which is responsible for the mixture's loss of gloss.

[0013] The waxes in the meaning of the application are those generally used in the cosmetic and skin treatment field; they are in particular those of natural origin such as beeswax, Carnauba wax, Candelilla wax, Ouricoury wax, Japan wax, cork or sugar cane fibres, paraffin, lignite waxes, microcrystalline waxes, lanolin wax, Montan wax, ozocerites, hydrogenated oils such as hydrogenated jujuba oil, but also synthetically produced waxes such as polyethylene wax, resulting from the polymerisation of ethylene, the synthetically obtained waxes of Flacher-Tropsch, the esters of fatty acids and the concrete glycerides at 40°C, the silicone waxes such as alkyls, alcoxy and/or esters of poly(di)methyl siloxane, solid at 40°C.

[0014] The composition of the invention is favourably self-carrying and can be presented as a stick or in a pot. It appears in particular as an anhydric transparent rigid gel and more specially in the form of a transparent anhydric stick, the fatty liquid phase being the continuous phase.

[0015] The structure or gelification of the fatty liquid (or oil) phase which is adjustable thanks to the nature of the heteroatom polymer used is such that a rigid structure is obtained in the form of a stick. These sticks, once coloured, produce, once applied, a glossy coating, of a homogeneous colour and with no running into the wrinkles and fine lines of the skin, which surround the lips in particular, but also the eyes. The polymers which are the object of the invention are soluble in a great many different oils.

[0016] The invention also concerns a structured composition for skin make-up, lips or hair and nails containing at least one pigment in sufficient quantity to make up the skin, lips and/or hair and nails and a fatty liquid phase structured by at least one polymer of an average molecular mass in weight from 1000 to 30 000, consisting of a polymeric skeleton, having hydrocarbonated repeat patterns provided with at least one heteroatom and b) at least one fatty pendant chain and/or at least one fatty terminal chain having from 12 to 120 carbon atoms binding with these patterns, the fatty chains representing from 40 to 98% of the total number of patterns with a heteroatom and of the fatty chains, which composition is presented in the form of a self-carried solid in particular and having in particular a hardness in a range from 20 to 2000 g and preferably 20 to 900 g and for example of 20 to 600 g, a pigment, the liquid fatty phase and the polymer forming an acceptable physiological medium.

[0017] This composition is especially a composition for a lipstick.

[0018] By "pigment" is understood any insoluble solid particle in the medium used for giving and/or modifying a colour and/or an iridescent aspect.

[0019] Advantageously, the polymer of the composition of the invention comprises an average molecular mass in weight from 1000 to 10 000 and preferably from 2000 to 8000.

[0020] The structuring polymer of the composition of the invention is an undeformable solid at a ambient temperature of 25°C and an atmospheric pressure (760 mm of Kg). It is capable of structuring the composition without making it cloudy.

[0021] By "functionalised chain" in the meaning of the invention, is meant an alkyl chain having one or several functional or reactive groups chosen in particular among the hydroxy, ether oxyalkylene or polyoxyalkylene, carboxylic acid, amine, halogen, of which the fluorated or perfluorated groups, ester [siloxane], polysiloxane. In addition, the hydrogen atoms of one or several fatty chains can be replaced at least partially by fluor atoms.

[0022] By "polymer" is meant, in the meaning of the invention a component having at least 2 repeat patterns.

[0023] By "repeat patterns" hydrocarbonated chains, are meant in the meaning of the invention a pattern of chain links having 2 to 80 atoms of carbon, preferably from 2 to 60 atoms of carbon, carrying hydrogen atoms and possibly oxygen atoms, which may be linear, ramified or cyclic, saturated or unsaturated. These patterns or chain links comprise in addition each from one to several non pendant heteroatoms and are situated in the polymeric skeleton.

[0024] In addition, the polymer of the composition of the invention comprises advantageously from 40 to 98% fatty chains as compared with the total number of the chain links with heteroatoms and fatty chains and preferably from 50 to 95%. The nature and the proportion of the chain links with heteroatoms depends on the nature of the fatty liquid phase and is in particular similar to the nature of the fatty phase. So, the more the chain links with heteroatoms are polar and the higher their proportion in the polymer, which corresponds, to the presence of several heteroatoms, the more affinity the polymer has an affinity for the polar oils. On the other hand, the less the chain links with heteroatom are polar, or even apolar, or in small proportion, the more the polymer has an affinity with the apolar oils.

[0025] The links or patterns with heteroatoms each comprise one or several heteratoms selected in particular from the atoms of nitrogen, sulphur, phosphorus or their associations, possibly associated with one or several atoms of oxygen. These patterns may also comprise a polar grouping of the carbonyl type.

[0026] The links or patterns with heteratoms are in particular links comprising hydrocarbonated links and silicone links forming an organopolysiloxane skeleton, amidic links forming a type polyamide skeleton, ["isocyanate"] links or preferably carbonate and/or urea forming a polyurethane, polyuric and/or polyurea-urethane skeleton. These links will be preferably amide links. It will be an advantage if the pendant links are directly bound to one at least of the heteroatoms of the polymeric skeleton.

[0027] Between the hydrocarbonated patterns, the polymer may comprise oxyalkylenic patterns.

[0028] As regards the preferable structuring polymers which may be used in the invention, we can suggest polyamides ramified by pendant and/or terminal fatty chains having 12 to

120 atoms of carbon and particularly 12 to 68 atoms of carbon, the terminal fatty chains being linked to the polyamide skeleton by ester functions.

[0029] These polymers are preferably polymers resulting from a polycondensation between a carboxylic diacid with at least 32 atoms of carbon (in particular 32 to 44 atoms of carbon) with a diamine having at least 2 atoms of carbon (having in particular from 2 to 36 atoms of carbon). The diacid will be preferably a dimer of fatty acid having at least 16 atoms of carbon like oleic, linoleic, linolenic acid. The diamine will be preferably ethylene diamine, hexylene diamine, hexamethylene diamine, phenylene diamine, ethylene triamine and even better, ethylene diamine. For polymers having one or two terminal groupings of carboxylic acid, it is recommended to esterify them by a monoalcohol having at least 4 atoms of carbon, preferably 10 to 36 atoms of carbon and better, from 12 to 24 and even better 18 atoms of carbon.

[0030] These polymers are more especially those described in the document US-~~8~~<sup>5</sup>783657 of the company Union Camp. Each of these polymers fulfils the following formula (1):

in which  $n$  is a whole number of amide patterns so that the number of ester groups represents from 10% to 50% of the total number of ester and amide groups;  $R<1>$  is at each occurrence independently an alkyl or alkylene group having at least 4 carbon atoms and particularly from 4 to 24 carbon atoms;  $R<2>$  represents at each occurrence independently a hydrocarbon group from C4 to C42 on the condition that 50% at least of groups  $R<2>$  represent a hydrocarbonated group in C30 to C42;  $R<3>$  represents at each occurrence independently an organic group provided with at least two atoms of carbon, hydrogen atoms and optionally one or several oxygen or nitrogen atoms;  $R<4>$  represents at each occurrence independently a hydrogen atom, an alkyl group in C1 to C10 or a direct link to  $R<3>$  or to another  $R<4>$  so that the nitrogen atom to which are linked both  $R<3>$  and  $R<4>$  is a part of a heterocyclic structure defined by  $R<4>-N-R<3>$ , with at least 50% of the  $R<4>$  representing a hydrogen atom.

[0031] In the special case of the formula (1), the terminal fatty chains possibly functionalised in the meaning of the invention are terminal chains linked to the last heteroatom, in this case nitrogen, of the polyamide skeleton.

[0032] In particular, the ester groups of the formula (1) which are terminal and/or pendant fatty chains in the meaning of the invention, represent 15 to 40% of the total number of the ester and amide groups and better from 35%. Also  $n$  represents advantageously a whole number from 1 to 5. Preferably  $R<1>$  is an alkyl group in C12 to C22 and preferably in C16 to C22. Advantageously,  $R<2>$  may be a hydrocarbonated (alkylene) group in C10 to C42. Preferably 50% at least and better 75% of the  $R<2>$  are groups having from 30 to 42 carbon atoms. The other  $R<2>$  are hydrogenated groups in C4 to C19 and even in C4 to C12. Preferably  $R<3>$  represents a hydrocarbonated group in C2 to C36 or a polyalkylenated group and  $R<4>$  represents a hydrogen atom. Preferably  $R<3>$  represents a hydrocarbonated group in C2 to C12.

[0033] The hydrocarbonated groups may be linear, cyclic or ramified groups, saturated or unsaturated. On the other hand, the alkyl and alkylene groups may be linear or ramified, saturated or unsaturated.

[0034] According to the invention, the structuring of the liquid fatty phase is obtained by means of one or several polymers in the formula (1). In general the formula (1) polymers appear in the shape of polymer mixtures, these mixtures may also contain a product of synthesis corresponding to a component of formula (1) with  $n$  being worth 0, i.e. a diester.

[0035] An example of structuring polymers being used in a composition according to the invention, are the commercial products sold by the company Boake Allen under the names Uniclear 80 and Uniclear 100. They are sold respectively in the form of a gel at 80% (of active substance) in a mineral oil and at 100% (of active substance). They have a softening point between 88 and 94°. These commercial products are a mixture of co-polymer of a diacid in C36 condensed on ethylene diamine, of an average molecular mass of about 6000. The terminal ester groups result from the esterification of the terminals of acid left by cetylic, stearyl alcohols or their combinations (also known as cetylstearyl alcohol).

BBA  
UNICLEAR  
80+100

[0036] The structuring polymers of the composition of the invention have preferably a softening temperature higher than 70°C and may go up to 190°C. Preferably they represent a softening temperature of between 80 and 130° and even better between 80 and 105°C. This softening temperature is lower than that of known structuring polymers which helps to implement the polymers which are the object of the invention and limits the deterioration of the fatty liquid phase.

[0037] The polymers which are the subject of the invention, because of their fatty chain, show good solubility in oils (that is, liquid compounds, not mixable with water) and therefore lead to microscopically homogeneous compositions even with a high polymer content (at least 25%), contrary to prior art polymers which lack the fatty chain.

[0038] Advantageously, the polymer is associated with at least one amphiphilic liquid component at ambient temperature, with a hydrophilic/lipophilic balance (HLB) lower than 12 and especially from 1 to 7 and preferably from 1 to 5, and better 3 to 5. According to the invention, one or several amphiphilic components may be used, these amphiphilic components are intended to reinforce the structuring properties of the polymer with heteroatoms, to facilitate the implementation of the polymer and improve the coating capacity of the stick.

[0039] According to the invention, the composition must have a hardness from 20 to 2000 g and better from 20 to 900 g, in particular from 20 to 600 g and for example from 150 to 450 g. This hardness may be measured by a method involving penetration with a probe into the said composition and in particular with the help of a texture analyser (for instance TA-XT2 from Rheo) provided with an ebonite cylinder 25 mm high and 8 mm in diameter. The hardness measurement is done at 20°C at the centre of 5 samples of the composition. The cylinder is introduced into each sample of the composition at a first speed of 2 mm/s, then at a speed of 0.5mm/s and finally at 2mm/s, the total displacement being 1 mm. The hardness value recorded is that of the maximum peak. The error margin is +/-50 g.

[0040] The hardness may also be measured by the so-called cheesewire method which consists of cutting an 8.1 mm stick of lipstick and measuring its hardness at 20°C by means of a dynamometer DFGHS 2 of the company Indelco-Chatillon moving at a speed of 100mm/min. It is expressed in terms of the cutting force (expressed in grams) needed to cut a stick in these conditions. According to this method, the hardness of a composition in a stick according to the invention varies from 30 to 150 g, preferably from 30 to 120 g and as an example from 30 to 50 g.

[0041] The hardness of a composition according to the invention is such that the composition is self-carrying and can be easily pushed out to form a satisfying coating on the skin and the lips. Moreover, with this sort of hardness, the composition has good resistance to shocks.

[0042] According to the invention, the composition in the form of a stick behaves like an elastic deformable and flexible solid, giving a remarkable elastic softness when applied. Prior art compositions in stick form do not have this property of elasticity and flexibility.

[0043] The amphiphilic compounds which can be used in the composition of the invention include a lipophilic part linked to a polar part, the lipophilic part comprising a carbon chain having at least 8 carbon atoms, particularly from 18 to 32 carbon atoms and preferably from 18 to 28 carbon atoms. Preferably, the polar part of this or these amphiphilic components is the remains of a component chosen from among the alcohols and polyols having from 1 to 12 hydroxyle groupings, the polyoxalkylenes having at least 2 oxyalkenated patterns and having from 0 to 20 oxypropylenated patterns and/or 0 to 20 oxyethylenated patterns. In particular, the amphiphilic component is an ester chosen among the hydroxystearates, the oleates, the isostearates of glycerol, sorbitan or methylglucose or the ramified fatty alcohols in C12 to C26 such as octyldodecanol and mixtures of these. Among these esters, the monoesters and the mono- and di-ester mixtures are preferred.

[0044] The amount of amphiphilic component and that of the polymer with heteroatoms are chosen according to the required hardness of the gel and according to the particular application intended. The respective quantities of polymers and of amphiphilic component must be such that a [deletable] stick may be obtained. In practice, the quantity of polymer (in active substance) represents from 0.5 to 80% of the total weight of the composition and preferably from 5 to 40%. The quantity of amphiphilic component represents practically from 0.1 to 35% of the total weight of the composition and preferably 2% to 15%.

[0045] Advantageously, the fatty liquid phase of the composition contains more than 40% and preferably more than 50% of liquid oil(s) having a grouping similar to that of the links with heteroatoms. In particular, the fatty liquid phase, structured by a polyamide type skeleton contains a prevailing quantity, that is, superior to 50% of the total weight of the fatty liquid phase, of oil or mixture of apolar liquid oils, particularly hydrocarbonated.

[0046] For a fatty liquid phase structured by a polymer with a partially siliconated skeleton, this fatty phase contains, preferably, more than 40% and better still, 50% in weight of oil or mixture of siliconated liquid oils of the total weight of the fatty liquid phase.

[0047] For a fatty liquid phase structured by an apolar hydrocarbonated type polymer, this fatty phase contains advantageously more than 40% and better still 50% in weight, of oil or mixture of apolar liquid oils, particularly hydrocarbonated, in relation to the total weight of the liquid phase.

[0048] In particular, the oils of the invention are:

hydrocarbonated vegetable oils with a high content in triglycerides constituted of esters of fatty acids and of glycerol in which the fatty acids may have various chain lengths, which can be linear or ramified, saturated or unsaturated; these oils are in particular, wheatgerm, corn, sunflower, shea butter, castor oil, sweet almond, macadamia, apricot, soya, rapeseed, cotton, luzerne, poppy, Hokkaido squash, sesame, squash, avocado, hazelnut, grapeseed, or blackcurrant seed, evening primrose, millet, barley, quinoa, olive, rye, safflower, candlenut tree, passion flower, muscat rose: or else triglycerids of caprylic/capric acids such as those sold by the company Stearineries Dubois or those sold under the trade-names Miglyol 810, 812 and 818 by the company Dynamit Nobel;

synthetic oils or esters with the formula  $R_5COOR_6$  in which  $R_5$  represents the remains of a superior linear or ramified fatty acid having from 1 to 40 and preferably 7 to 19 carbon atoms and  $R_6$  represents a hydrocarbonated chain containing 1 to 40 and preferably 3 to 20 carbon atoms with  $R_5+R_6=10$  like, for example, oil of Purcellin (cetostearyl octanoate), isononyl isononanoate, alcohol benzoate in C12 to C15, isopryl myristate, ethyl 2-hexyl palmitate, octanoates, decanoates of ricinoleates of alcohols of polyalcohols; hydroxylated esters such as isostearyl lactate, di-[leo-stearyl] malate and the esters of pentaerythritol; ethers obtained by synthesis having from 10 to 40 carbon atoms;

fatty alcohols in C8 to C26 such as oleic alcohol;  
their mixtures.

[0049] The apolar oils according to the invention are in particular the siliconated oils such as polydimethylsiloxanes (PDMS), volatile or not, linear or cyclic, liquid at ambient temperature; the polymethylsiloxanes having groupings of alkyls, alkoxy or phenyls pendent and/or at the end of the siliconated chain, groupings having each from 2 to 24 carbon atoms; the phenylated silicones like the phenyl trimethicones, the phenyl dimethicones, the phenyl trimethylsiloxysilicates; the hydrocarbons and fluorocarbons, linear or ramified, of synthetic or mineral origin, volatile or not, like volatile paraffin oils (such as isoparaffins, isododecane) or non-volatile and its derivatives, vaseline, polydecenes, hydrogenated polyisobutene such as [parleam], squalane and mixtures of them. Preferably structured oils and more especially those structured by the polyamides and particularly those of formula (1) or polyurethanes or polyureas or polyureas-polyurethanes are apolar oils of the hydrocarbonated type of mineral or synthetic origin, chosen in particular among the hydrocarbons, in particular the alkanes such as oil of [parleam], the isoparaffins among which, isododecane, squalane and their mixtures.

[0050] The fatty liquid phase represents, practically, 5 to 99% of the total weight of the composition, preferably from 20 to 75%.

[0051] The composition which is the object of the invention can furthermore include any additive habitually used in the domain in question, chosen in particular from water possibly thickened or gellified by a thickener or an aqueous phase gelling agent, antioxydants, essential oils, preservatives, perfumes, neutralisers, liposoluble polymers, active cosmetic or skincare agents such as for instance, emollients, hydratants, vitamins, essential fatty acids, sun filters and mixtures of these. These additives may be present in the composition in a quantity from 0 to 20% of the total weight of the composition and preferably from 0 to 10%. Advantageously, the composition contains at least an active cosmetic or skincare agent.

[0052] Of course the practitioner will be careful to choose the possible complementary additives and/or their quantity in such a way that the advantageous properties of the composition according to the invention will not be altered, at least not substantially by the addition proposed.

[0053] The composition according to the invention may be presented in the form of a tinted composition for skin treatment or for the care of keratinic substances such as skin, lips and/or the hair and nails in the form of a sun protecting or body hygiene composition, in particular in the form of a deodorant or make-up remover in the form of a stick. It may be used in particular as a basic composition for treatment of the skin, the hair and nails of the lips (lip balms protecting the lips from the effects of cold weather and/or the sun and/or the wind, cream for improving the skin, nails or hair).

[0054] The composition described in the invention can also be presented as a coloured product for make-up of the skin, in particular a foundation, having possibly also care or treatment properties, a blusher, rouge and eye-shadow, a concealer, an eye-liner, a product for body make-up; for lip make-up such as lipstick, possibly with care or treatment properties; for make-up of the nails and eyelashes in the form of a lash mascara, the eyebrows and hair in the form of a pencil. In particular, the composition described in the invention may be a cosmetic product containing active cosmetic or skincare agents.

[0055] Of course the composition of the invention must be cosmetically or dermatologically acceptable, i.e. must contain a physiologically non-toxic and acceptable medium which can be applied to the skin, the hair and nails and the lips of a human being. By cosmetically

acceptable is meant, in the meaning of the invention, a composition attractive as to aspect, scent and touch.

[0056] According to the invention, the composition contains a colouring substance which may be chosen among lipophilic colorants, hydrophilic colorants, pigments and nacreous colorants habitually used in cosmetic or skincare composition. This colouring substance is generally present in a quantity of 0.01 to 40% of the total weight of the composition, preferably from 1 to 35% and even better from 5 to 25%.

[0057] Preferably, the colouring substance should contain essentially pigments and/or nacreous colorants in order to obtain a make-up, not transparent, but covering the skin, the lips, the hair or nails. The pigments are also useful for reducing the sticking touch of the compositions, unlike soluble colorants.

[0058] Liposoluble colouring agents are for instance Sudanese red, DCRed 17, DC Green G, beta-carotene, soya oil, Sudanese brown, DC Yellow 11, DC Violet 2, DC Orange 5, quinoleine yellow. They may represent from 0 to 20% of the weight of the composition and preferably from 0.1 to 6% (if they are used).

[0059] The pigments may be white or coloured, mineral and/or organic, coated or not. Among the mineral pigments may be named titanium dioxide, possibly superficially treated, oxides of zirconium or cerium, as well as iron or chrome oxides, manganese violet, ultramarine blue, chromium hydrate and [ferrous] blue. Among the organic pigments can be named carbon black, pigments of the type D&C and lacquers based on cochineal, barium, strontium, calcium aluminium carmine. The pigments may represent from 0 to 40%, preferably from 1 to 35% and best from 2 to 25% of the total weight of the composition.

[0060] Nacreous pigments (or nacres) may be chosen from the white nacreous pigments such as mica coated with titanium, or bismuth oxychloride, the coloured nacreous pigments such as titanium mica with iron oxides, titanium mica with, in particular ferrous blue or chromium oxide, titanium mica with an organic pigment of the type already named as well as nacreous pigments based on bismuth oxychloride. They may represent from 0 to 20% of the total weight of the composition and preferably from 0.1 to 15% (if used).



[0061] The composition in accordance with the invention can be manufactured by known processes, generally used in the cosmetics or dermatology fields. It can be manufactured by the process that consists in heating the polymer to at least its softening temperature, adding the amphiphilic compound(s), the colorants and additives, then mixing the complete mixture until a clear, transparent solution is obtained. The homogeneous mixture obtained can then be cast in an appropriate mould such as a lipstick mould, or directly into the packaging articles (such as a case or a compact).

[0062] A further aim of the invention is a cosmetic process for care, make-up or treatment of keratinous matter and particularly the skin, lips and skin appendages, including application on keratinous matter of the composition, particularly a cosmetic application as defined above.

[0063] A further aim of the invention is the use of a sufficient quantity of at least one polymer with a mean molecular mass of 1,000 to 30,000, and preferably 1,000 to 10,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, in a cosmetic composition or for the manufacture of a physiologically acceptable composition, free of wax and containing a continuous liquid oil phase and a colorant, to structure the said composition in the form of a self-supporting solid and in particular with hardness of 20 to 2,000 g and particularly 20 to 900 g, and preferably 20 to 600 g.

[0064] A further aim of the invention is the use of a continuous liquid oil phase, structured mainly by a sufficient quantity of at least one polymer with a mean molecular mass of 1,000 to 30,000, and preferably 1,000 to 10,000, including (a) a polymer skeleton, with hydrocarbon distribution patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, in a cosmetic composition or for the manufacture of a physiologically acceptable rigid composition, particularly self-supporting, and with, for example, hardness of 20 to 2,000 g and particularly 20 to 900 g, and preferably, for example, 20 to 600 g, free of wax, glossy and/or non-migrant.

[0065] A further aim of the invention is the use of a continuous liquid oil phase, structured mainly by a sufficient quantity of at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, in a cosmetic composition or for the manufacture of a physiologically acceptable composition containing a continuous liquid oil phase and a colorant, to structure the said composition in the form of a self-supporting solid and with hardness of, for example, 20 to 2,000 g and particularly 20 to 900 g and, for example, 20 to 600.

[0066] A further aim of the invention is the use of a continuous liquid oil phase, structured mainly by a sufficient quantity of at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, in a cosmetic composition or for the manufacture of a

physiologically acceptable composition as an agent for limiting migration of the said composition.

[0067] A further aim of the invention is a cosmetic process for limiting migration of a cosmetic composition containing a liquid oil phase, consisting in structuring the said liquid oil phase by a sufficient quantity of at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns.

[0068] A further aim of the invention is a make-up stick for use on the skin, lips and/or skin appendages, and particularly the lips, containing at least one pigment in sufficient quantity for making up the skin, lips and/or skin appendages, and a liquid oil phase, structured by at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, and with the pigment, the oil phase and the polymer forming a physiologically acceptable medium.

[0069] The invention is illustrated in more detail in the following examples. Percentages are given in weight.

### **Example 1: Lipstick**

Uniclear 80 25.0 %  
Parleam oil 56.0%  
Polyglyceryl-2 polyhydroxystearate 10.0 %  
Pigments (brown iron oxide ad titanium oxide) 9.0 %

[0071] Preparation: The Uniclear 80 is solubilized (or dissolved) using the polyglyceryl-2 polyhydroxystearate in the Parleam oil at 100°C, then the pigments are added. The mixture is mixed using a deflocculation turbine (manufactured by Raynarle) then cast in lipstick moulds.

[0072] A lipstick is obtained with hardness of 425 g measured using the TA-XT2 texture analyser at 20°C. The lipstick obtained is glossy and non-migrant. This was confirmed by a test on an expert panel in comparison with a glossy product of previous technology, Rouge Absolu, manufactured by Lancôme. The lipstick concerned in the invention was found by all testers to be more glossy when applied than that of previous technology, and less migrant after wearing for 2 hours.

### **Example 2: Dry eye-shadow**

Uniclear 80 25.0 %  
Parleam oil 35.1 %  
Glyceryl oleate 31,25 %  
Pigments qs 100.0 %

[0074] This eye-shadow in stick form was produced as in example 1. It is glossy and non-migrant.

### **Example 3: Lipstick**

[0075] This differs from example 1 in that Uniclear 100 is used instead of Uniclear 80.

### **Counter-example**

[0076] Example 1 was reproduced, replacing the polyamide Uniclear 80 by the polyamide Versamid TM 930 sold by the Henkel company, then by the polyamide Macromelt TM 6212 also sold by the Henkel company, these two polyamides being free of alkyl or alkene chain end groups with at least 4 carbon atoms, linked to the polyamide skeleton by an ester group.

[0077] The products obtained are completely heterogeneous and in two-phase form. They do not have in any way the appearance or hardness of a stick.

## Claims

1. Structured solid composition containing at least one colorant and a continuous liquid oil phase, structured by at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, the said composition being presented in the form of a solid, free of wax, and with the colorant, the liquid oil phase and the polymer forming a physiologically acceptable medium.
2. Solid composition in accordance with Claim 1, characterised by the fact that it is self-supporting.
3. Structured composition containing at least one colorant and a continuous liquid oil phase, structured by at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, the said composition being presented in the form of a solid with hardness of 20 to 2,000 g, and preferably 20 to 900 g and free of wax, and with the colorant, the liquid oil phase and the polymer forming a physiologically acceptable medium.
4. Composition in accordance with one of the above claims, characterised by the fact that the fatty chains represent 50 to 95% of the total number of fatty chains and heterostome patterns.
5. Composition in accordance with one of the above claims, characterised by the fact that the heterostome patterns are amides.
6. Composition in accordance with one of the above claims, characterised by the fact that the hanging fatty chains are directly linked to at least one of the said heterostomes.
7. Composition in accordance with one of the above claims, characterised by the fact that the end fatty chains are directly linked to the skeleton by ester groups.
8. Composition in accordance with one of the above claims, characterised by the fact that the fatty chains contain 12 to 68 carbon atoms.
9. Composition in accordance with one of the above claims, characterised by the fact that the polymer is chosen from the polymers of the following formula (1) and their mixtures:

in which n denotes a number of amide patterns such that the number of ester groups represents 10% to 50% of the total number of ester and amide groups; at each occurrence, R<1> is independently an alkyl or alkene group containing at least 4 carbon atoms; at each occurrence, R<2> is independently a C<sub>4</sub> to C<sub>42</sub> hydrocarbon group on condition that at least 50% of the R<2> groups represent a C<sub>30</sub> to C<sub>42</sub> hydrocarbon group; at each occurrence, R<3> is independently an organic group containing at least 2 carbon atoms, hydrogen atoms and optionally one or more atoms of oxygen or nitrogen; and at each occurrence, R<4> is independently a hydrogen atom, a C<sub>1</sub> to C<sub>10</sub> alkyl group or a direct link to R<3> or another R<4> such that the nitrogen atom to which R<3> and R<4> are both linked forms part of a heterocyclic structure defined by R<4>-N-R<3>, with at least 50% of the R<4> representing a hydrogen atom.

10. Composition in accordance with the above claim, characterised by the fact that R<1> is a C12 to C22 alkyl group.

11. Composition in accordance with either of the above claims 9 or 10, characterised by the fact that R<2> are groups containing 30 to 42 carbon atoms.

12. Composition in accordance with one of the above claims, characterised by the fact that the composition includes, among other things, at least one liquid amphiphilic compound at ambient temperature, with an HLB value of less than 12 and particularly from 1 to 7, and preferably from 1 to 5.

13. Composition in accordance with the preceding claim, characterised by the fact that the amphiphilic compound includes a polar part, where the lipophilic part includes a carbon chain containing at least 8 carbon atoms, preferably 16 to 32 carbon atoms, and preferably 18 to 28 carbon atoms.

14. Composition in accordance with the preceding claim, characterised by the fact that the polar part is the remainder of a compound chosen from alcohols and polyols containing 1 to 12 hydroxyl groups, where the polyoxyalkalenes include at least 2 oxyalkylene patterns and contain 0 to 20 propoxylation patterns and/or 0 to 20 oxyethylene patterns.

15. Composition in accordance with one of claims 12 to 14, characterised by the fact that the amphiphilic compound is chosen from the hydroxystearates, oleates and isostearates of glycerol, sorbitan, or methylglucose, and octyldodecanol.

16. Composition in accordance with one of claims 12 to 15, characterised by the fact that the amphiphilic compound represents 0.1 to 36% of the total weight of the composition, and preferably 2 to 15%.

17. Composition in accordance with one of the above claims, characterised by the fact that the polymer represents 0.5 to 80% of the total weight of the composition, and preferably 5 to 40%.

18. Composition in accordance with one of the above claims, characterised by the fact that the polymer includes a mean molecular mass from 1,000 to 10,000, and preferably 2,000 to 8,000.

19. Composition in accordance with one of the above claims, characterised by the fact that the liquid oil phase contains more than 40%, and preferably 50% of liquid oil(s) with grouping similar to that of heterostome links.

20. Composition in accordance with one of claims 5 to 19, characterised by the fact that the liquid oil phase contains more than 40%, and preferably 50% of oil or mixture of apolar liquid oils.

21. Composition in accordance with one of the above claims, characterised by the fact that the oil phase contains at least one hydrocarbon oil of mineral or synthetic origin.

22. Composition in accordance with one of the above claims, characterised by the fact that the oil phase contains at least one apolar oil chosen from parleam oil, isoparaffins, squalane and their mixtures.

23. Composition in accordance with one of the above claims, characterised by the fact that the liquid oil phase represents 5 to 99% of the total weight of the composition, and preferably 20 to 75%.

24. Composition in accordance with one of the above claims, characterised by the fact that it forms a composition for care and/or treatment and/or make-up of keratinous matter.

25. Composition in accordance with one of the above claims, characterised by the fact that it contains, among other things, at least one cosmetic or dermatological active ingredient.

26. Composition in accordance with one of the above claims, characterised by the fact that it contains at least one additive chosen from water, anti-oxidants, essential oils, preservatives, neutralisers, liposoluble polymers, additives, flavours and their mixtures.

27. Composition in accordance with one of the above claims, characterised by the fact that it is presented in the form of a transparent anhydrous rigid gel, and particularly a transparent anhydrous stick.

28. Composition in accordance with one of the above claims, characterised by the fact that the colorant is chosen from lipophilic colorants, hydrophilic colorants, pigments, mother-of-pearl and their mixtures.

29. Composition in accordance with one of the above claims, characterised by the fact that the colorant represents 0.01 to 40% of the total weight of the composition, and preferably 5 to 25%.

30. Structured solid composition for making up the skin, lips and/or skin appendages, containing at least one pigment in sufficient quantity for making up the skin, lips and/or skin

appendages, and a liquid continuous oil phase, structured by at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, the said composition being presented in the form of a solid, and with the pigment, the liquid oil phase and the polymer forming a physiologically acceptable medium.

31. Composition in accordance with claim 30, characterised by the fact that it is self-supporting.

32. Structured composition for making up the skin, lips and/or skin appendages, containing at least one pigment in sufficient quantity for making up the skin, lips and/or skin appendages, and a liquid continuous oil phase, structured by at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, the said composition being presented in the form of a solid with hardness of 20 to 2,000 g, and preferably 20 to 900 g and, even better, preferably 20 to 600 g, and with the pigment, the liquid oil phase and the polymer forming a physiologically acceptable medium.

33. Structured lipstick composition containing at least one pigment in sufficient quantity for making up the skin, lips and/or skin appendages, and a liquid continuous oil phase, structured by at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, the said composition being presented in the form of a solid that may be self-supporting, for example, with the pigment, the liquid oil phase and the polymer forming a physiologically acceptable medium.

34. Composition in accordance with one of claims 32 and 33, characterised by the fact that the polymer is a polyamide.

35. Composition in accordance with one of claims 32 to 34, characterised by the fact that the end fatty chain(s) is (are) linked to the carbon skeleton by ester groups.

36. Composition in accordance with claims 1 to 32, 31 to 35, characterised by the fact that it is presented in the form of block mascara, eye liner, foundation, lipstick, blush, deodorant or make-up remover, body make-up, eye shadow or rouge, or concealer.

37. Stick for making up the skin, lips and/or skin appendages, containing at least one pigment in sufficient quantity for making up the skin, lips and/or skin appendages, and a liquid continuous oil phase, structured by at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, with the pigment, the oil phase and the polymer forming a physiologically acceptable medium.

38. A cosmetic process for care, make-up or treatment of human keratinous matter, including the application on keratinous matter of a cosmetic composition in accordance with the above claims.

39. The use in sufficient quantity of least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition pattern links containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, in a cosmetic composition or for the manufacture of a physiologically acceptable composition, free of wax and containing a continuous liquid oil phase and a colorant, to structure the said composition in the form of a self-supporting solid and in particular with hardness of 20 to 2,000 g and particularly 20 to 900 g, and preferably 20 to 600 g.

40. Use in accordance with the preceding claim, characterised by the fact that the polymer is a polyamide that contains ester function end groups containing a hydrocarbon chain with 10 to 42 carbon atoms.

41. Use in accordance with claim 34 or 35, characterised by the fact that the polymer is associated with a liquid amphiphilic compound at ambient temperature, whose HLB value is less than 12 and particularly from 1 to 7, and preferably from 1 to 5.

42. Use of a continuous liquid oil phase, structured mainly by a sufficient quantity of at least one polymer with a mean molecular mass of 1,000 to 30,000, and preferably 1,000 to 10,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, in a cosmetic composition or for the manufacture of a physiologically acceptable rigid self-supporting composition, free of wax, glossy and/or non-migrant.

43. Use in accordance with the preceding claim, in which the polymer is a polyamide that contains ester function end groups containing a hydrocarbon chain with 10 to 42 carbon



atoms and is associated with a liquid amphiphilic compound at ambient temperature, whose HLB value is less than 12 and particularly from 1 to 7, and preferably from 1 to 5.

44. Use of a continuous liquid oil phase, structured mainly by a sufficient quantity of at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns, in a cosmetic composition or for the manufacture of a physiologically acceptable composition as an agent for limiting migration of the said composition.

46. Use in accordance with one of claims 39 to 45, in which the composition has a hardness of 20 to 2,000 g, preferably 20 to 900 g and, even better, 20 to 600 g.

47. A cosmetic process for limiting migration of a cosmetic composition containing a liquid oil phase, consisting in structuring the said liquid oil phase by a sufficient quantity of at least one polymer with a mean molecular mass of 1,000 to 30,000, including (a) a polymer skeleton, with hydrocarbon repetition patterns containing at least one heterostome, and (b) at least one hanging fatty chain and/or at least one end fatty chain, which may possibly be functionalized, with 12 to 120 carbon atoms linked to these patterns, where these fatty chains represent 40 to 98% of the total number of fatty chains and heterostome patterns.